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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 752,227	12/29/2000	Joseph E. Johnson	97078CIPDIV1	5132

7590

08/01/2002

Cabot Corporation
Law Department
157 Concord Road
Billerica, MA 01821

EXAMINER

SHOSHO, CALLIE E

ART UNIT

PAPER NUMBER

1714

DATE MAILED: 08/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/752,227

Applicant(s)

JOHNSON ET AL.

Examiner

Callie E. Shosho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 57-67 and 69-72 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 57-67 and 69-72 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. Applicants' amendment filed 3/25/02 overcomes the rejections of record.

The following rejection is non-final in light of the new grounds of rejection as set forth below.

Election/Restrictions

2. In light of applicants' cancellation of non-elected claims 73-78 in the amendment filed 3/25/02, the restriction requirement made in Paper No. 3 is hereby withdrawn.

Information Disclosure Statement

3. It is noted that the Lin (U.S. 5,281,261) reference has been stricken from the IDS filed 3/25/02 as redundant given that it was already cited by the examiner on the PTO-892 mailed with the office action of 12/11/01.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

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(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

5. Claims 57-59, 65-67, and 69 are rejected under 35 U.S.C. 102(e) as being anticipated by Whitehouse et al. (U.S. 6,337,358).

Whitehouse et al. disclose modified pigment comprising pigment having attached group of the formula $A-R^1-\overset{\overset{R^2}{|}}{C}-X-SFR$ where A is an aromatic or alkyl group, X is a polymer, and SFR is $O-Ar^2$ where Ar is an aromatic group. It is further disclosed that the above group can be terminated with hydrogen instead of SFR. The polymer includes that obtained from monomers such as styrene and alkyl (meth)acrylate, i.e. polymer comprises presently claimed X group of alkyl or aromatic group, as well as polyamide, polyvinyl alcohol, and polyester. There is also disclosed an ink jet ink which comprises liquid vehicle and the above modified pigment (col.2, line 64-col.3, line 34, col.5, lines 50-51, col.6, lines 58-60, col.8, lines 11-12 and 20-24, col.11, lines 21-41, col.11, lines 53-col.12, line 21, col.12, lines 50-57, col.13, line 19, and col.15, lines 17-21).

In light of the above, it is clear that Whitehouse et al. anticipate the present claims.

6. Claims 57-59 and 65-67 are rejected under 35 U.S.C. 102(b) as being anticipated by Lin (U.S. 5,281,261).

Lin discloses modified pigment wherein polymer is attached to pigment through aromatic group. The polymer includes alkyl or aromatic group. There is also disclosed an ink jet ink which comprises liquid vehicle and the above modified pigment (col.6, lines 14-15, col.7, lines 40-57, and col.8, lines 47-52).

In light of the above, it is clear that Lin anticipates the present claims.

7. Claim 57 is rejected under 35 U.S.C. 102(b) as being anticipated by Hall et al. (U.S. 5,552,458).

Hall et al. disclose modified pigment comprising pigment having attached group of the formula $R^2-\overset{\overset{R^1}{|}}{\underset{\underset{R^3}{|}}{Si}}-AX$ where R^2 is a C_1-C_{10} alkyl group and X is attached to polymeric backbone. The polymer includes polyacrylic, polyurethane, and polyester (col.3, lines 24-32 and 46-47 and col.4, lines 45-50).

In light of the above, it is clear that Hall et al. anticipates the present claim.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
9. Claims 60-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehouse et al. (U.S. 6,337,358) or Lin (U.S. 5,281,261) either of which in view of Belmont et al. (U.S. 5,571,311).

The disclosures with respect to Whitehouse et al. and Lin in paragraphs 5 and 6 are incorporated here by reference.

The difference between Whitehouse et al. or Lin and the present claimed invention is the requirement in the claims of functional group attached to presently claimed aromatic or alkyl group X.

Both Whitehouse et al. and Lin disclose pigment having attached alkyl and/or aromatic group which is further substituted with polymer, however, neither reference discloses that the alkyl or aromatic group is further substituted with functional group.

Belmont et al., which is drawn to modified pigment, disclose pigment having attached alkyl or aromatic group which is substituted with functional group such as carboxylic group or sulfonate group (col.5, lines 11-20 and 36-38). The motivation for using such pigment is that is has increased water dispersability as compared to untreated pigment (col.6, lines 5-19).

In light of the motivation for substituting alkyl or aromatic group with functional group disclosed by Belmont et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such functional group in the modified pigment of either Whitehouse et al. or Lin in order to produce a pigment with increased water dispersability, and thereby arrive at the claimed invention.

10. Claims 62-64 and 70-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehouse et al. (U.S. 6,337,358) or Lin (U.S. 5,281,261) either of which in view of Johnson et al. (U.S. 5,837,045).

The disclosures with respect to Whitehouse et al. and Lin in paragraphs 5 and 6 are incorporated here by reference.

The difference between Whitehouse et al. or Lin and the present claimed invention is the requirement in the claims of modified pigment comprising second chemical group.

Johnson et al., which is drawn to modified pigment, disclose pigment having attached chemical group such as carboxyphenyl or sulfophenyl in order to produce pigment that is more

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easily dispersible and has greater stability than untreated pigment (col.3, lines 37-43, col.7, lines 30-38, and col.11, lines 17-26).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to attach chemical group such as carboxyphenyl or sulfophenyl to modified pigment of either Whitehouse et al. or Lin in order to produce pigment with improved dispersability and stability, and thereby arrive at the claimed invention.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 703-305-0208. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 703-306-2777. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Callie E. Shosho
Examiner
Art Unit 1714

CS
7/29/02